

SOME OBSERVATIONS ON THE GENUS LEPTOMORPHUS WITH A DESCRIPTION OF A NEW SUBSPECIES.

BY F. R. SHAW, Amherst, Mass.

In October, 1942, Dr. A. B. Gurney, then attached to the station hospital at Camp Crowder, Missouri, collected some large fungus gnats which appeared to be of considerable interest. He forwarded the specimens for identification. There were four specimens, three males and one female, all belonging to the genus *Leptomorphus*. These specimens exhibited some differences in markings and not until I had made comparisons with material at the Museum of Comparative Zoology was I able to make a decision as to the correct classification. It is considered that the specimens represent a new subspecies of *Leptomorphus subcaeruleus* which I take pleasure in naming *gurneyi* as a token of appreciation for the many kindnesses Dr. Gurney has extended to me.

Leptomorphus subcaeruleus gurneyi, n. subsp.

Length 11 mm:

Head. Antennae with first five flagellar segments dark brown, basal half of the sixth and remaining flagellar segments yellow. Occiput dark brown, this color extends anteriorly to just beyond the ocelli which appear to be white. Remainder of the face including the palpi yellow. Thorax brown. Mesonotum dark brown. One specimen had yellow markings on the humeri resembling those of *subcaeruleus*. The other specimens had the mesonotum entirely dark with the exception of one specimen which had a pair of minute yellow spots over the wing base. Legs. Prothoracic coxae yellow, only faintly tinged with brown at the base. Trochanters and femora yellow, tibiae and tarsi dark brown. Mesothoracic coxae brown on the basal half, distal half, trochanters, femora and tibiae yellow. Tarsi brownish yellow. Metathoracic coxae brown on basal two thirds, distal third, trochanters and both apical and proximal parts of femora yellow. Tibiae yellow with small black spines. Tibial spurs yellow. Tarsi yellow with a dense covering of silvery hairs. Wings. Banded similarly to those of *nebulosus* Walk. but the tip of the wing not as clearly covered by a brown band. Wing length and body length subequal. In *nebulosus* Johannsen 1910, states that the ratio of body length to wing length is 10-16. The *r-m* crossvein is only about 1/4

the length of the petiole of *M*. This differentiates this species from *nebulosus* Walk. where these two elements are subequal. In *walkeri* Curtis, the *r-m* crossvein is about 1/3 the length of the petiole of *M* but this species lacks bicolored antennae. Abdomen. Reddish. Basal segment reddish brown, darker than the others. Hypopygium yellow resembling that of *Leptomorphus subcaeruleus pulcher* (Joh.).

Since some changes have occurred following Johannsen's Monograph of the Mycetophilidae, it will not be amiss to review briefly the literature covering the North American species of this group.

The genus *Leptomorphus* was erected by Curtis in 1831. *Leptomorphus walkeri* is considered to be the genotype. In 1911, Johannsen recognized three species, *hyalinus* Coq., *walkeri* Curtis and *ypsilon* Joh. as occurring in North America.

The genus *Diomonus* was erected in 1848 by Walker. *Diomonus nebulosus* Walk. was the genotype. Johannsen, 1910, recognized five species, *bifasciatus* Say, *magnificus* Joh., *nebulosus* Walk., *pulcher* Joh. and *subcaeruleus* Coq. as occurring in this country. Johannsen apparently recognized that *Diomonus* was closely related to *Leptomorphus* for he states—

“With the exception of the presence of R_{2+3} in the wing of *Diomonus*, the two are very similar in structural characters.”

He further states that one specimen of *Diomonus pulcher* lacked R_{2+3} and hence would have been classified as belonging to *Leptomorphus*.

Edwards, 1924, makes the following comment relative to these two genera—

“Since there is no essential difference between *Diomonus* and *Leptomorphus* I would propose to unite the two, the North American species described as *Diomonus* being evidently nothing more than species of *Leptomorphus* which have retained R_4 .”

It may be well to indicate that Edwards considered that the first branch of the radial sector in the Mycetophilidae was R_4 .

Both the author and Fisher have followed Edwards' classification in regard to the union of *Leptomorphus* and *Diomonus*.

Further investigations by Fisher have made necessary a reclassification of the species. Based on studies of male genitalia, Fisher, 1937, considers that *pulcher* Joh. and *magnificus* Joh. are varieties of *subcaeruleus* Coq. These investigations are based on the types of *pulcher* and *magnificus* and a specimen of *subcaeruleus* from Johannsen's collection. Accordingly the present grouping would be as follows:

Leptomorphus subcaeruleus gurneyi n. subspecies

Leptomorphus subcaeruleus magnificus (Joh.)

Leptomorphus subcaeruleus pulcher (Joh.)

Leptomorphus subcaeruleus subcaeruleus (Coq.)

A study of members of this group indicate considerable variation in markings. The new subspecies possesses other characteristics sufficiently distinct to give it recognition even though it is not a new species. In Johannsen's key, the new subspecies would, on antennal coloring, be determined as *nebulosus*. It differs from *nebulosus* in wing venation and color pattern of the wing. The specimen of *nebulosus* which I saw at the Museum of Comparative Zoology had no yellow markings on the mesonotum. Two of the specimens I have reveal the presence of yellow markings but they are not the same. In Fisher's key, 1937, the specimen would be identified as either *nebulosus* or *walkeri*. The latter species lacks bicolored antennae.

A study of the male genitalia revealed that, based on these characters, there was not sufficient differentiation to justify the establishment of a new species. The structure of the hypopygium of *Leptomorphus subcaeruleus gurneyi* can be considered to be identical to that of *pulcher* Joh. as far as any practical variations are concerned.

***Aedes aegypti* (Linnaeus), the Yellow Fever Mosquito, in Arizona (Diptera).**—According to the latest account of the mosquitoes of the southeastern United States, by S. J. Carpenter, W. W. Middlekauff, and R. W. Chamberlain (1946, *Amer. Midland Naturalist*, Monogr. No. 3, p. 230), *Aedes aegypti* is known to extend westward to New Mexico; but it has not been recorded as yet from Colorado, Utah, Arizona, and California. It appears, however, to be well established in at least one locality in southern Arizona. Mr. J. R. de la Torre-Bueno recently sent me a male caught in his house at Tucson, on October 15, 1946. He writes me that this mosquito is well known by some of the local entomologists, being fairly common in summer and often annoying indoors through its persistent and elusive attacks around the ankles. It often bites during the daytime and is essentially a house-dwelling mosquito. The breeding places are frequently near or even inside human dwellings. If the temperature conditions are favorable, this species will breed even during the winter.—J. BEQUAERT, Museum of Comparative Zoölogy, Cambridge, Mass.